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Ian J. Mensher

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# THE TONLE SAP: RECONSIDERATION OF THE LAWS GOVERNING CAMBODIA'S MOST IMPORTANT FISHERY

Ian J. Mensher<sup>†</sup>

*Abstract:* The Tonle Sap Basin is not only Cambodia's largest inland fishery, but also the source of food and income for roughly one million Cambodians. Its biodiversity is unrivaled within Southeast Asia, and its sustainability is vital to the socioeconomic and political stability in the region. However, Cambodia's current fishery, forestry, and land laws do not adequately protect the Tonle Sap Basin from over-fishing and the introduction of sedimentation and pollution caused by increasing development. The laws do not create or reflect a model for sustainable fishing and development. Both the laws currently in force and proposed legislation fail to limit logging, farming and damming activities that ruin fish habitat and create economic and social instability. The myriad laws are at times too narrowly tailored to provide adequate protection or so broad as to create loopholes allowing adverse impacts from the development of agricultural lands, the use of pesticides, and the creation of dams. The laws also fail to meet the constitutional requirements and international agreements binding upon Cambodia. To remedy these legal and policy gaps, the Cambodian government should reform the current and proposed legislation to create more formal prohibitions on harmful activities and enhance local control over the management and monitoring of fishing. Stronger laws are needed to stop the introduction of further sediment and chemical agents into the Tonle Sap Basin. Moreover, the government must close discretionary loopholes and incorporate local users into a broad vision of sustainable management on the Tonle Sap Basin.

## I. INTRODUCTION

From the end of French colonial reign, Cambodia has struggled to find political, social, and legal stability. After the rule of Pol Pot<sup>1</sup> and a succession of unstable socialist governments,<sup>2</sup> Cambodia only recently transformed into a constitutional monarchy. Full democratization has not occurred and Cambodia still relies heavily on international aid for civil stability. While some may contend that its entry into World Trade Organization ("WTO") marks an important transition, the country and its

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<sup>1</sup> See Kingdom of Cambodia, Cambodia Country History, <http://www.cambodia.gov.kh/unisq11/egov/english/country.history.html> (last visited Mar. 31, 2006).

<sup>2</sup> Ending Pol Pot's regime in 1979, the Vietnamese invaded Cambodia, creating the socialist People's Republic of Kampuchea. After years of opposition, the Cambodian monarchy bartered a deal for Vietnamese removal in 1989. Pol Pot's Khmer Rouge remained an opposition force and did not partake in the elections in the newly formed Kingdom of Cambodia, a constitutional monarchy with the monarchy of King Sihanouk. Privatization commenced between 1989 and 1992, ending the era of collectivism. See *id.*

population remain largely impoverished and undereducated.<sup>3</sup> “The legal framework is dismal,” and progress is slow-paced in the vacuum of proper governance.<sup>4</sup> Despite the presence of political discord, Cambodia’s leaders are aware of the environmental problems that accompany modernization and expansion.<sup>5</sup> In part, this stems from Cambodia’s reliance on its fisheries for food, income, and social harmony. As the country’s population expands, demand for its resources increases and development alters the landscape, Cambodia must decide how to maintain and support the biodiversity and health of its inland fisheries while allowing the country to expand in the world market.

Because the Tonle Sap Basin (“Tonle Sap”)<sup>6</sup> is Cambodia’s largest source of fish, it stands as an excellent vehicle for addressing the woeful gaps in Cambodia’s fishery and environmental laws and policy. Considered the most important fishery in the country,<sup>7</sup> the Tonle Sap is an irreplaceable social and economic resource.<sup>8</sup> Fishing in the Tonle Sap supports both domestic subsistence and mid-size fishing,<sup>9</sup> while industrial-level export continues to increase in its share of the overall catch. Surrounding countries have set their sights not only on fish, but also on the hydroelectric and timber potential of the Tonle Sap.<sup>10</sup> Although the Tonle Sap is still a viable fishery, without proper legal reform, increased agency coordination and

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<sup>3</sup> See Rebecca Povarchuk, *Cambodia’s WTO Accession: A Strenuous but Necessary Step for a Poor Nation Seeking Economic Prosperity*, 13 PAC. RIM L. & POL’Y J. 645 (2004). This is a decidedly positive review of Cambodia’s entry into the WTO.

<sup>4</sup> Sith Samath et al, *Addressing Anarchy: Decentralisation and Natural Resource Management in Ratanakiri Province, Upland Cambodia*, in INSTITUTIONS, LIVELIHOODS, AND THE ENVIRONMENT: CHANGE AND RESPONSE IN MAINLAND SOUTHEAST ASIA, 367 (Andrea Straub ed., 2001).

<sup>5</sup> Recognition of the environmental problems facing Cambodia can be seen in a host of laws and regulations, including the Constitution, the Environmental Laws, the new Forestry Law, the International Wetlands agreement, and the designation of the Tonle Sap as a UNESCO Protected Biosphere.

<sup>6</sup> The Tonle Sap Basin refers to the areas of the Tonle Sap River at its confluence with the Mekong River.

<sup>7</sup> See ASIAN DEVELOPMENT BANK, *THE TONLE SAP BASIN STRATEGY* (2005). Seventy-five percent of Cambodians rely almost entirely on fish for protein. See Mlup Baitong, *Cambodia Environment Fact and Information*, <http://www.mlup.org/www.mlup.orgenglish/mlup%20baitong/Cam-face.html> (last visited May 12, 2006).

<sup>8</sup> See Steven Sanderson, *The Future of Conservation*, FOREIGN AFFAIRS, Sept.-Oct. 2002, at 162.

<sup>9</sup> See Draft Fisheries Law (2001) (Cambodia), available at <http://www.maff.gov.kh/pdf/DraftFisheriesLaw.pdf>.

<sup>10</sup> China has proposed damming key tributaries to the Tonle Sap, which has direct and proximate impact on the health and stability of the fishery. See Edward Lanfranco, *China and the Mekong: A Tale of Two Rivers*, TERRADAILY, July 6, 2005, <http://www.terradaily.com/news/water-earth-05j.html>. Illegal Timber trade has similarly destroyed key wetland areas of the Tonle Sap; Food and Agriculture Organization of the U.N., *For Cambodia’s ‘Great Lake’ and the Millions Who Depend on It, A New Lease on Life*, FAO NEWSROOM, Sept. 21, 2005, <http://www.fao.org/newsroom/en/field/2005/107684/index.html>.

environmental planning, it will likely become a wasteland of mismanagement and exploitation.<sup>11</sup>

To demonstrate the lack of legal and administrative control over the Tonle Sap, this Comment examines the frail legal regime that currently fails to project a sustainable future for the fishery. Part II gives a brief summary of the geography, history, land use, and fishery practices in and on the Tonle Sap. Part III presents the theory of sustainability and summarizes the laws governing the Tonle Sap, including the Draft Fisheries Law. Part IV gives a detailed legal analysis of the fishery and related laws, highlighting the gaps, loopholes, and policy failures in the current and proposed legal regimes. Lastly, Part V provides a recommendation for changes within the Cambodian legal regime, by comparing the Cambodian method of fishery governance to other sustainable fisheries systems.<sup>12</sup>

## II. CAMBODIA AT THE CROSSROADS: INCREASING POPULATION, DEVELOPMENT, AND DEMAND PLACE THE TONLE SAP IN A PERILOUS POSITION

Like many Southeast Asian countries, Cambodia has begun to modernize and integrate with world markets. At the same time, Cambodia's lands are largely undeveloped and contain delicately balanced, yet rich natural resources. Thus, Cambodia sits at a junction from which it can either pursue an environmentally sustainable path, or careen down one of short-term profits and long-term disappointment. Nowhere is this dilemma more apparent than around the Tonle Sap. As Southeast Asia's largest freshwater lake and basin, the Tonle Sap is home to an incredible amount of animal life. These living resources are the major source of food and labor for over one million Cambodians.<sup>13</sup> Yet because of the relatively new systems of private land tenure, international export of fish, and privately operated forestry practices, this natural resource remains in perilous straits. Unprotected forests, poor scientific study, and outdated laws all contribute to these problems. Despite these threats, Cambodia is in a position to remedy this situation. To understand why Cambodia is well placed to create reasonable

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<sup>11</sup> See Trade and Environmental Database, *TED Case Studies: Lake Victoria*, <http://www.american.edu/projects/mandala/TED/VICTORIA.HTM> (last visited May 8, 2006). Lake Victoria is an excellent example of poor management decisions, over-fishing, and pollution leading to the demise of a powerful inland fishery; it is a model Cambodia must not emulate.

<sup>12</sup> Specific attention will be paid to the Celilo Falls Fishery on the Columbia River in the Northwestern United States, now buried behind the Dalles Dam.

<sup>13</sup> See ASIAN DEVELOPMENT BANK, SUMMARY OF INITIAL ENVIRONMENTAL REPORT FOR TONLE SAP SUSTAINABLE LIVELIHOODS PROJECT IN CAMBODIA 3 (2005).

and workable set of laws for the Tonle Sap's sustainable future, it is necessary to understand the current uses and demands on the Tonle Sap.

A. *The Tonle Sap Basin's Unique Hydrology Supports Millions of People and an Unparalleled Diversity of Fish, Birds, and Mammals*

The Tonle Sap's internationally renowned biodiversity is rooted in its unique hydrology.<sup>14</sup> During the dry season the Tonle Sap covers an area of merely 2,500 square kilometers, but during the rainy season it swells up to 10,000-16,000 square kilometers.<sup>15</sup> When flooded, the Tonle Sap takes up roughly 44% of the total area of Cambodia.<sup>16</sup> Nearly 60% of the basin's waters flow from the Mekong River.<sup>17</sup> The hydrologic cycle of dry and wet seasons helps replenish nutrients, increase spawning areas and expand fishing access for Cambodians. However, this replenishment depends on the health and existence of inundated forests.<sup>18</sup> The roots of these trees trap nutrients, filter the water, and create spawning habitat.<sup>19</sup> Moreover, during the rainy season, fish thrive on newly available nutrients in deep inland rivers.<sup>20</sup> The flood cycle also means that activities in the floodplain have a direct effect on the water quality of the Tonle Sap.<sup>21</sup> Activities such as logging loosen sediment, increase siltation of the basin, and introduce residual chemicals into the water when the Basin floods.<sup>22</sup> Flood season also brings human and chemical waste into the Tonle Sap from downstream cities on the Mekong, especially from Phnom Penh, Cambodia's largest city.<sup>23</sup>

Because of this rejuvenating hydrology, the Tonle Sap is also home to a rich array of human and animal life. The rainy season backflow creates unique habitat that supports fish, birds, buffalo, and humans.<sup>24</sup> Although

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<sup>14</sup> See United Nations Education, Scientific and Cultural Organization, Man and Biosphere Programme, Biosphere Reserve Information: Tonle Sap, <http://www2.unesco.org/mab/br/brdir/directory/biores.asp?mode=all&code=CAM+01> (last visited May 8, 2006).

<sup>15</sup> ASIAN DEVELOPMENT BANK, *supra* note 7, at 1.

<sup>16</sup> *Id.* at 1.

<sup>17</sup> ASIAN DEVELOPMENT BANK, *supra* note 13, at 5.

<sup>18</sup> See *id.*; see also Draft Fisheries Law, *supra* note 9; JOSEPH KALO ET AL., COASTAL AND OCEAN LAW: CASES AND MATERIALS, (2d ed. 2002) (stating the general importance of wetlands to the health and biodiversity of fisheries).

<sup>19</sup> ASIAN DEVELOPMENT BANK, *supra* note 13, at 10.

<sup>20</sup> *Id.*

<sup>21</sup> See OLIVIER SERRAT, THREATS TO THE TONLE SAP 2 (2005), available at [http://www.adb.org/Projects/Tonle\\_Sap/Speeches/threats-tonle-sap.pdf](http://www.adb.org/Projects/Tonle_Sap/Speeches/threats-tonle-sap.pdf).

<sup>22</sup> World Lakes Network, Experience and Lessons Learned Brief for Tonle Sap, Jan. 20, 2004, at 7, [http://www.worldlakes.org/uploads/Tonle\\_Sap\\_Brief\\_20Jan04.pdf](http://www.worldlakes.org/uploads/Tonle_Sap_Brief_20Jan04.pdf).

<sup>23</sup> See generally David Lague, *Water Crisis Shows China's Pollution Risk*, N.Y. TIMES, Nov. 24, 2005, at A6.

<sup>24</sup> ASIAN DEVELOPMENT BANK, TECHNICAL ASSISTANCE TO THE KINGDOM OF CAMBODIA FOR ESTABLISHMENT OF THE TONLE SAP BASIN MANAGEMENT ORGANIZATION II, at 1 (2004).

studies are only beginning to explore the depth and breadth of this fishery, its importance is unquestioned.<sup>25</sup> Estimates indicate that from 200 to over 800 species of fish, including the rare, giant catfish,<sup>26</sup> inhabit the Tonle Sap.<sup>27</sup> Migratory birds from Southeast Asia also make use of the Tonle Sap, while crocodiles, birds,<sup>28</sup> deer, and buffalo roam its shores and 45 different habitats.<sup>29</sup> Equally as important, over one million people, roughly 32% of the total Cambodian population,<sup>30</sup> rely on this fishery. The Tonle Sap provides food and income, as well as social, cultural, and political stability. Despite the rich biological resources of the Tonle Sap, however, between 40 and 60% of the households bordering it are below the official poverty line.<sup>31</sup>

### B. *Current Fishing Practices on the Tonle Sap*

There is increasing awareness of the economic, social, and political importance of the Tonle Sap and the legal inadequacy of the Fisheries Law to protect future fish stocks. Fishing in the Tonle Sap produces nearly 230,000 tons of fish annually, which supports roughly one million Cambodians each year. Economically, this produces around \$150-200 million a year, of which 25% comes from exports.<sup>32</sup> The Tonle Sap actually reaches into Thailand and is regarded by neighboring countries as a vital natural resource.<sup>33</sup>

<sup>25</sup> See E. Baran & T.A. Jantunen, WorldFish Center, *A Bayesian Model of the Fish Production in the Tonle Sap Great Lake, Cambodia* (2004), [http://www.worldfishcenter.org/projects/bayfish/Baran\\_Jantunen\\_2004\\_Stakeholders\\_consultation\\_for\\_Bayesian\\_DSS.pdf](http://www.worldfishcenter.org/projects/bayfish/Baran_Jantunen_2004_Stakeholders_consultation_for_Bayesian_DSS.pdf) (describing the importance of flooded networks generally); Stefan Lovgren, *Saving the Big Fish: Zeb Hogan Is Hooked on Rescuing the Catfish of Cambodia from Oblivion*, HAMILTON SPECTATOR, Jan. 21, 2006, at 3.

<sup>26</sup> Lovgren, *supra* note 25; see also Michael Sullivan, *Tonle Sap: The Flowing Heart of Cambodia* (National Public Radio, Morning Edition broadcast Dec. 6, 2005), available at <http://www.npr.org/templates/story/story.php?storyId=5039980>; see also Kultida Samabuddhi & Theerawat Khamthita, *Giant Catfish Hunt Faces Extinction*, BANGKOK POST (Thailand), May 2, 2005, (describing the deleterious effects of hunting giant catfish).

<sup>27</sup> ASIAN DEVELOPMENT BANK, REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE BOARD OF DIRECTORS, PROPOSED ASIAN DEVELOPMENT FUND GRANT KINGDOM OF CAMBODIA: TONLE SAP SUSTAINABLE LIVELIHOODS PROJECT, at v (2005). This survey suggests that there had once been 500 species of fish, but that over 300 of them have disappeared from the Tonle Sap.

<sup>28</sup> Karen J. Coates, *Plan Helps Birds, Villagers Thrive in Cambodia*, CHRISTIAN SCI. MONITOR, Mar. 16, 2006, at 16 (describing attempts to stop bird hunting and egg poaching in Prek Toal, next to the Tonle Sap).

<sup>29</sup> ASIAN DEVELOPMENT BANK *supra* note 7, at 8.

<sup>30</sup> *Id.* at 1.

<sup>31</sup> *Id.* at ii.

<sup>32</sup> *Id.* at 1. The majority of the fish are exported to Thailand.

<sup>33</sup> Concern over the health of the Tonle Sap and Mekong River helped create the inter-governmental Mekong River Commission, which coordinates and proposes legislation and provides scientific monitoring of the inland waterways. See Mekong River Commission, *Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin*, Apr. 5, 1995, available at [http://www.mrcmekong.org/agreement\\_95/agreement\\_95.htm](http://www.mrcmekong.org/agreement_95/agreement_95.htm).

Unfortunately, the current fishing system in place on the Tonle Sap provides for only a modicum of order and restraint. Access to the Tonle Sap for fishing is governed by the 1987 Fisheries Law,<sup>34</sup> which divides inland fishery access into publicly auctioned lots and an open access system.<sup>35</sup> Lot ownership is favored over open access because it gives the lot owner a limited lease to fish the entire lot area, while in the open access areas, where few regulations exist, fishermen must stake out the best areas and fight off other fishermen. Because of this confusion, many try to live as close as possible to the best fishing areas, even building houses on stilts over these spots.<sup>36</sup> This lack of equal access rights gives rise to frequent, violent clashes between lot owners and open access users.<sup>37</sup> Further “anarchy in the fisheries sector”<sup>38</sup> includes the use of samras, a fishing method of using tree branches placed in the water to concentrate and harvest fish using seine nets, occupation of water without permits, and illegal catching of *pangasius* fingerlings.<sup>39</sup>

Responding to the increased need for order that the old laws do not provide, the Cambodian Fisheries Department has implemented two five-year “Fisheries Sector Development Plan[s].”<sup>40</sup> In addition, the government recently made all capture of giant catfish illegal.<sup>41</sup> The government has also attempted to separate the fishery users into three categories: 1) community-based fishers; 2) mid-sized fishers; and 3) industrial-sized fishers.<sup>42</sup> This is

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<sup>34</sup> Fiat-Law on Fishery Management and Administration, State Council, No. 33 KRO.CHOR (enacted Mar. 9, 1987).

<sup>35</sup> See NICOLAAS VAN ZALINGE, MEKONG RIVER COMMISSION FISHERIES PROGRAM, DATA REQUIREMENTS FOR FISHERIES MANAGEMENT ON THE TONLE SAP, [http://www.fao.org/documents/show\\_cdr.asp?url\\_file=/docrep/005/ad070e/ad070e0a.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/005/ad070e/ad070e0a.htm) (last visited May 8, 2006). Fishing lots are auctioned off in a competitive public system for two-year periods and the largest lots are nearly 500 square kilometers. Lot owners are allowed to harvest at the maximum levels designated by the MAFF. See ASIAN DEVELOPMENT BANK, *supra* note 7, at 35.

<sup>36</sup> VAN ZALINGE, *supra* note 35. Often Cambodians build houses on stilts to ensure being nearest the water even during flooded seasons.

<sup>37</sup> MINISTRY OF AGRICULTURE, FISHERIES AND FORESTRY, REPORT ON “THE MAJOR ACTIVITIES AND ACTION PLAN OF GOOD GOVERNANCE” IN FISHERIES SECTOR 1-2 (2002), *available at* <http://www.maff.gov.kh/pdf/CamfishGAP.PDF>.

<sup>38</sup> *Id.* at 3.

<sup>39</sup> *Id.* at 4.

<sup>40</sup> DEPARTMENT OF FISHERIES, SECOND FIVE-YEAR FISHERIES SECTOR DEVELOPMENT PLAN 2000-2005, at 1-5 (2001), *available at* <http://www.maff.gov.kh/pdf/5-yearplan0105eng.pdf> (English translation on official website).

<sup>41</sup> Lovgren, *supra* note 25, at 3.

<sup>42</sup> See Draft Fisheries Law, *supra* note 9.

part of an effort to give subsistence fishermen and their families a protected community-based fishery, off-limits to other users.<sup>43</sup>

C. *Cambodia's Increasing Population, Growing Market Share, and Erratic Land Use Strain Its Natural Resources*

As Cambodia's population and industrial activity increases, the divergence between big cities and rural areas has grown.<sup>44</sup> Economic activity has consistently increased over the past fifteen years. The population, too, has increased rapidly with 43% of Cambodians below fifteen years of age.<sup>45</sup> While Phnom Penh has benefited from the increased economic activity, the rural areas, which contain the largest populations, have seen little improvement. Indeed, as much as eighty percent of Cambodia's rural population lives in poverty.<sup>46</sup> Literacy rates are low, and lack of news and political information is pervasive throughout these areas.<sup>47</sup>

While the influx of money and interest from abroad has benefited Cambodia's economy, the country has overburdened infrastructure development.<sup>48</sup> Even though roughly 75% of the population works in agriculture, more young people are moving into the cities for factory work.<sup>49</sup> The increase in the cities' populations stresses basic sanitation and access to housing. As a consequence, more housing is being created in a vacuum of planning and basic sewerage systems.<sup>50</sup> As Cambodia's biggest city, Phnom Penh's disorderly expansion has a direct impact on the Tonle Sap. When the Mekong reverses<sup>51</sup> it transports waste back into the Tonle Sap.<sup>52</sup> Thus,

<sup>43</sup> See Meredith A. Giordano, *Managing the Quality of International Rivers: Global Principles and Basin Practice*, 43 NAT. RESOURCES J. 111 (2003). The author gives a general overview of practices on large river basins and suggests the need for water quality institutions.

<sup>44</sup> Cambodia's population as of 2003 was expanding at a rate of 2.3%, and the population was nearly 14 million in 2005. See DEPARTMENT OF FISHERIES, *supra* note 40, at 2.

<sup>45</sup> *Id.* at 2. Population is projected to be 14 million by 2005.

<sup>46</sup> ASIAN DEVELOPMENT BANK, *supra* note 7, at 1, 5.

<sup>47</sup> See *id.*; see also NATIONAL INSTITUTE OF STATISTICS, CAMBODIA INTER-CENSAL POPULATION SURVEY (CIPS) 2004: WOMEN IN CAMBODIA, available at [http://www.nis.gov.kh/SURVEYS/depthcips04/wc\\_cips/summary\\_wc.htm](http://www.nis.gov.kh/SURVEYS/depthcips04/wc_cips/summary_wc.htm).

<sup>48</sup> JOHN DENNIS, A REVIEW OF NATIONAL SOCIAL POLICIES: CAMBODIA, [http://www.mekonginfo.org/mrc\\_en/doclib.nsf/0/2A94925F72E170CBC725682E002A8D30/\\$FILE/FULLTEXT.html](http://www.mekonginfo.org/mrc_en/doclib.nsf/0/2A94925F72E170CBC725682E002A8D30/$FILE/FULLTEXT.html) (last visited June 17, 2006).

<sup>49</sup> ASIAN DEVELOPMENT BANK, *supra* note 7, at 7.

<sup>50</sup> Karen A. Tramontano, *Stitching Up Global Labor Rights*, WASH. POST, Dec. 11, 2004, at A23, available at <http://www.washingtonpost.com/wp-dyn/articles/A56426-2004Dec10.html>.

<sup>51</sup> The Mekong floods and reverses direction once annually. See ASIAN DEVELOPMENT BANK, THE MEKONG PEOPLE 12 (2004), available at <http://www.adb.org/Documents/CSPs/GMS/2004/gms-people.pdf>.

<sup>52</sup> Tom Fawthrop, *The Price of Free Trade—Part II: The End of Textile Export Quotas Cushion May Confront Cambodia with the Hard Realities of the Global Marketplace*, YALE GLOBAL ONLINE, Oct. 1, 2004, <http://yaleglobal.yale.edu/display.article?id=4627>.



proper planning is required to make this population transition ultimately beneficial to all Cambodians in the years to come.

As the cities expand, the rural areas have seen little improvement. Poor education is a predominant characteristic of people on the Tonle Sap, especially among women.<sup>53</sup> There is also a lack of medical access, although Cambodia is responding by implementing non-profit medical care.<sup>54</sup> These problems are amplified on the Tonle Sap, where access to medical care, education, and information are limited.<sup>55</sup> The Basin's relative isolation has also created difficulties in implementing fishery and forestry management policy.<sup>56</sup> Moreover, damming of the lower Mekong will put these populations at further risk due to reduced water flow and fish habitat.<sup>57</sup>

Further, the confusion created by Cambodia's relatively new system of private land tenure<sup>58</sup> has exacerbated poor land use planning on the Tonle Sap. On the one hand, private land ownership has lead to unchecked and erratic construction in critical areas on the Tonle Sap, increasing sedimentation and decreasing points of access.<sup>59</sup> On the other hand, the new land laws have created confusion for much of the rural poor regarding land titles and boundary resolution.<sup>60</sup> Many people simply have no concept or desire to title land they have always used. However, those who do not title their land face the possibility of losing it to the government.<sup>61</sup> Moreover, with the increase in population, clashes have grown over competition for owning land.<sup>62</sup> Lastly, tension between ethnic Vietnamese and native Khmer peoples has increased due to uneven land titling and resource exploitation.<sup>63</sup>

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<sup>53</sup> NATIONAL INSTITUTE OF STATISTICS, 1998 LITERACY CENSUS OF CAMBODIA, *available at* <http://www.nis.gov.kh/CENSUSES/Census1998/literacy.htm>.

<sup>54</sup> Celia W. Dugger, *Cambodia Tries Nonprofit Path to Health Care*, N.Y. TIMES, Jan. 8, 2006.

<sup>55</sup> ASIAN DEVELOPMENT BANK, *supra* note 7, at 5.

<sup>56</sup> *See* DEPARTMENT OF FISHERIES, *supra* note 40, at 1-4.

<sup>57</sup> *See* Piyaporn Wongruang, *Study Planned for Two Dams*, BANGKOK POST (Thail.), Oct. 4, 2005.

<sup>58</sup> *See* ASIAN DEVELOPMENT BANK, LAND ACQUISITION AND RESETTLEMENT FRAMEWORK FOR THE TONLE SAP SUSTAINABLE LIVELIHOODS PROJECT (2005), *available at* [http://www.adb.org/Documents/Resettlement\\_Plans/CAM/LARF-TSS.pdf](http://www.adb.org/Documents/Resettlement_Plans/CAM/LARF-TSS.pdf).

<sup>59</sup> *See* MOK MARETH ET AL., BIODIVERSITY CONSERVATION AND SOCIAL JUSTICE ON THE TONLE SAP WATERSHED: THE TONLE SAP BIOSPHERE RESERVE (2001), *available at* <http://www.earthscape.org/r1/cbs01/cbs01a13aa.html>.

<sup>60</sup> *See* Cambodia Center for Human Rights, *Police Killed 5 in Poipet: A Case of Violent Land Evictions*, First Quarterly Report at 17-20 (2005).

<sup>61</sup> *See* Joanne Pawlowski, *Forced Evictions of Cambodia's Poor*, HUMAN RIGHTS TRIBUNE, vol. 11, n.3 (2005), [http://www.hri.ca/tribune/onlineissue/V11-3-2005/Evictions\\_in\\_Cambodia.html](http://www.hri.ca/tribune/onlineissue/V11-3-2005/Evictions_in_Cambodia.html).

<sup>62</sup> *See* ASIAN DEVELOPMENT BANK, *supra* note 7, at 2.

<sup>63</sup> Although many of the "ethnic Vietnamese" were born in Cambodia, there nonetheless exists tension and animosity with those with "full" Khmer nationality. *See id.* at 6.

### III. THE LAWS GOVERNING THE TONLE SAP: AN ANALYSIS OF THE CURRENT LAND, FORESTRY AND FISHERY LAWS

Given the unique hydrology and sheer size of the Tonle Sap, the Forestry and Land Use laws have almost as large an impact as the Fishery Laws. Because the new laws ought to create sustainable practices, a brief description of the theory and an example of sustainable resource management will precede an examination of the historical and legal developments of the land use, fishery, and forestry laws.

#### A. *The Sustainability Theory Contributes Several Basic Factors to Be Considered in Any Legal Framework*

The word “sustainability” has specific meaning in the context of resource management. Sustainability refers to a type of control of a common-pool resource (“CPR”) to prevent its destruction and maintain its long-term productivity.<sup>64</sup> Elinor Ostrom, an expert on the governance of common pool resources, suggests five elements of a sustainable fishery: 1) clear property rights; 2) collective choice governance; 3) close monitoring; 4) clear sanctions; and 5) dispute-resolution capacity.<sup>65</sup> While existence of these five factors<sup>66</sup> is only *prima facie* evidence of a sustainable fishery, nearly all successful fisheries possess these characteristics.<sup>67</sup> The five elements function in concert, preventing overuse caused by self-interested users maximizing personal profit at the expense of the common resource.<sup>68</sup> Larger fisheries require coercion or a “special device” because “rational self-interested individuals will not act to achieve their common or group interests.”<sup>69</sup> Creating fishery laws with these five elements in mind helps to avoid the tragedy of the commons<sup>70</sup> and to establish sustainable fishery

<sup>64</sup> See ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 3 (1990).

<sup>65</sup> *Id.* at 2, 3, 5.

<sup>66</sup> Gregory Maggio suggests a reduced three critical elements for sustainable resources: 1) “recognizing resource access rights and security for local communities; [2)] enabling local communities to participate effectively in resource management decisions under the regimes; and [3)] requiring equitable sharing with local communities of benefits arising out of the use of natural resources.” G. F. Maggio, *Recognizing the Vital Role of Local Communities in International Legal Instruments for Conserving Biodiversity*, 16 UCLA J. ENVTL. L. & POL’Y 179, 180 (1998).

<sup>67</sup> Cf. JOSEPH C. DUPRIS ET AL., THE SI’LAILO WAY: INDIANS, SALMON AND LAW ON THE COLUMBIA RIVER 15 (2006).

<sup>68</sup> OSTROM, *supra* note 64, at 2 (discussing the tragedy of the commons in general).

<sup>69</sup> MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 2 (1965) (emphasis removed).

<sup>70</sup> See Garrett Hardin, *The Tragedy of the Commons*, SCIENCE, Dec. 13, 1968, at 162. This is a seminal work on the tragedy that ensues when users of a common-pool resource seek to further their

management.<sup>71</sup> At the same time, one must bear in mind the relentless and deeply historical aspects of over-fishing.<sup>72</sup>

An example of the successful application of Ostrom's five factors can be found at the Celilo Falls fishery, on the Columbia River, Oregon.<sup>73</sup> In 1934, Warm Springs, Umatilla, and Yakima Indians created the Celilo Fishery Committee ("Committee") to manage salmon fishing on at Celilo Falls.<sup>74</sup> Although the Indians had the technology to over-fish, they chose a markedly divergent, sustainable path instead.<sup>75</sup> The Committee represented nearly all the Indians who had a property right derived from treaties with the U.S. to fish at the "usual and accustomed"<sup>76</sup> places along the Dalles and Columbia Rivers.<sup>77</sup> The Committee created its own bylaws by means of discussion and collective action.<sup>78</sup> Moreover, the rules were enforced by imposing sanctions on members who failed to meet the community's expectations.<sup>79</sup> Given the nature of fishing with dip-nets<sup>80</sup> on shared

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individual goals and needs at the expense of the resource itself. Hardin demonstrates the tragedy of the commons by reference to herdsmen, who each rationally seeks to maximize his herd on a common plot of land. For each added animal, the herdsman gains one unit of value, but the cost of over-grazing by having more animals is shared by everyone. This externalization of negative costs leads to more and more animals being added until the resource itself cannot support any of the animals and the herders thus kill off the common resource. This situation has repeated itself in many arenas, not just environmental ones.

<sup>71</sup> See Tundi Agardy, *An Environmentalist's Perspective on Responsible Fisheries: The Need for Holistic Approaches*, presented at Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (Oct. 1-4, 2001), available at <http://www.fao.org/fi/meetings/Reykjavik/default.asp>. Agardy presents the model of cooperative management strategies that involve all users to insure long-lasting fisheries.

<sup>72</sup> See JEREMY JACKSON ET AL., HISTORICAL OVERFISHING AND THE RECENT COLLAPSE OF COASTAL ECOSYSTEMS, SCIENCE, July 27, 2001; see also Cornelia Dean, *About the Oceans, He Says Firmly, Attention Must Be Paid*, N.Y. TIMES, Apr. 26, 2005, at F2. The realist's view is that over-fishing is simply inescapable.

<sup>73</sup> The installation of a dam on the Dalles River effectively killed off the Celilo Falls fishery in 1957. However, before the arrival of the dam, fishing practices were consummately sustainable, as defined by Ostrom's five-factors. DUPRIS ET AL., *supra* note 67, at 18.

<sup>74</sup> See *id.*

<sup>75</sup> See *id.* at 339-360. While they had the ability to over-fish, they thought of the future generations' need to fish and subsequently limited their take. Sampson Tulee's will encapsulates the Indians' sustainable vision for the Columbia. In his will, he gave his interests in the fishery to his children and their children in perpetuity: in fee tail. *Id.* at 20. Indeed, it was the over-fishing and damming activity of the newcomer Europeans and Chinese that destroyed this fishery.

<sup>76</sup> *Id.* at 109-110. This was the treaty language used to guarantee tribal fishing rights.

<sup>77</sup> *Id.* at 200-201.

<sup>78</sup> *Id.* at 215-217.

<sup>79</sup> *Id.* at 208-09. Pensus B. "Peanuts" Finley was the only person the Committee excluded from Celilo, given his generally unwelcome demeanor. Tom Nye was also sanctioned (his fish were confiscated and he was excluded from the best platforms) because he not only broke the ban on night fishing, but he broke another's dip net. *Id.*

<sup>80</sup> *Id.* at 11-17. A dip-net is a long pole with a net on the end, used to capture salmon migrating up through rivers especially in turbulent water. One would dip the pole deep in the water and salmon were easily plucked from the water.

platforms, close monitoring was conducted by the fishery's own users.<sup>81</sup> The Committee also served as the vehicle for resolving disputes between users.<sup>82</sup> Most importantly, members of the Committee were also users of the resource and had a stake in its perpetual existence.<sup>83</sup> The Celilo Falls fishery is an important example of possibility of a sustainable fishery and the strength of Ostrom's five-factor analysis.

*B. The Evolution of the Land Use Laws Reflect a Transition from Socialism to Privatization*

Cambodia's private property ownership regime is a recent development, reflecting not only its socialist past, but also the confusion wrought by its post-colonial transition. Even after Pol Pot lost power in 1979, the notion of private property did not reappear until 1989.<sup>84</sup> Indeed, in 1979, the Khmer Rouge's successors, the People's Republic of Kampuchea ("PRK"), established a system of collective ownership whereby private ownership rules were based merely on occupancy and no true private title existed.<sup>85</sup> With another change of government in 1989 that created the State of Cambodia, the government established limited private land tenure.<sup>86</sup> At the same time, the State of Cambodia did not recognize any traditional rights to the land.

A major step toward formal and complex land ownership rights occurred when the recently formed Kingdom of Cambodia<sup>87</sup> set out a new system of land laws in 1992.<sup>88</sup> With 227 articles, the Land Law of 1992

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<sup>81</sup> *Id.* at 204.

<sup>82</sup> *Id.* at 215-217.

<sup>83</sup> *See id.* at 20. Had the Dalles Dam not been built and fishing controlled by Indian laws, the fishery would likely still exist today.

<sup>84</sup> *See* John Dennis, *supra* note 48.

<sup>85</sup> Indira Simbolon, *Access to Land of Highland Indigenous Minorities: The Case of Plural Property Rights in Cambodia*, Max Planck Institute for Social Anthropology Working Papers, Working Paper No. 42 (2002), at 13.

<sup>86</sup> *Id.* at 14. Three types of ownership were created: (1) private ownership around homes under 2000 square meters; (2) usufruct rights to state owned plots of less than 5 hectares; and (3) concession rights to expand agricultural areas larger than 5 hectares.

<sup>87</sup> *See* Malcom Falkus & Stephen Frost, *Labour Relations and Regulations in Cambodia: Theory and Practice*, Working Papers Series No. 38, City University of Hong Kong (2002), at 2-3, available at [http://www.cityu.edu.hk/searc/WP38\\_02\\_FalkusFrost\\_Full.pdf](http://www.cityu.edu.hk/searc/WP38_02_FalkusFrost_Full.pdf). The Kingdom of Cambodia is a constitutional monarchy, with King Samdech Norodom Sihanouk Varaman serving much like the English monarchs, allowing Parliament to do much of the legislative work. Parliament is bicameral, with most power being in the National Assembly, though a Senate exists. There is also an independent judiciary with a Supreme Court.

<sup>88</sup> Land Law of 1992, Kret-Chbab/100 (enacted on Aug. 10, 1992).

created general rules of private property ownership.<sup>89</sup> Despite the apparent transparency of these laws, their creation resulted in uneven distribution of property and surreptitious land grabbing by the government.<sup>90</sup> The Land Law of 1992 permitted the government to prey on the ignorance of citizens and eject those who merely did not follow a new procedure to title land.<sup>91</sup> Use of force was not uncommon in ejecting tenants.<sup>92</sup> These actions sparked international debate.<sup>93</sup>

Subsequently, the Land Law of 2001 was created and appears to have rectified many of the problems inherent in the Land Law of 1992.<sup>94</sup> For example, it establishes protection for public lands and ecological reserves.<sup>95</sup> However, complaints of discretionary abuses remain, and the cadastral process of boundary disputes remains extremely slow due to the overwhelming number of disputes.<sup>96</sup> Land grabbing continues.<sup>97</sup> In addition, a clause in Article 12 of the Land Law of 2001 provides the state with a reversionary interest<sup>98</sup> in all lands.<sup>99</sup> This flexible standard allows the government to appropriate lands for any “reasonable” public use if the users

<sup>89</sup> See *id.* The eight types of land ownership are: 1) estate ownership; 2) temporary possession; 3) ownership dismemberment; 4) real-estate secured transactions; 5) succession; 6) sale of real estate; 7) rights conservation of the estate; and 8) regulation of real estate.

<sup>90</sup> *King Delivers Justice in Ratanakiri Land Case*, Legal Aid of Cambodia Quarterly, May 2002, 1-4; see also Pawlowski, *supra* note 61.

<sup>91</sup> Land Law of 1992, *supra* note 88, art. I (stating that all land in Cambodia belongs to the state).

<sup>92</sup> Legal Aid of Cambodia, *Officials Use Cancelled Land Titles to Lease Land*, LEGAL AID OF CAMBODIA Q., Feb. 2003, at 5-6, [http://www.lac.org.kh/final\\_quarterly\\_newsletter\\_feb\\_2003.pdf](http://www.lac.org.kh/final_quarterly_newsletter_feb_2003.pdf).

<sup>93</sup> See generally Shaun Williams, *Review of Current and Proposed Cambodian Land Legislation*, OXFAM Cambodia Land Study Project (May 1999), available at [http://www.ngoforum.org.kh/Land/Docs/draftlandlaw/review\\_of\\_current\\_and\\_proposed\\_Cambodian\\_landlegislation.htm](http://www.ngoforum.org.kh/Land/Docs/draftlandlaw/review_of_current_and_proposed_Cambodian_landlegislation.htm). Given the drafting flaws and abuses that resulted, domestic and international NGOs heavily criticized the Land Law of 1992, spurring legislative action.

<sup>94</sup> Land Law of 2001, art. 4 (Cambodia), available at <http://www.gocambodia.com/laws/pdf/LAW-01-Land%20Law-E.pdf> (official law in Khmer).

<sup>95</sup> *Id.* art. 11; see also William Chapman, “The Best Laid Schemes . . .”: *Land-Use Planning and Historic Preservation in Cambodia*, 7 PAC. RIM L. & POL’Y J. 529 (1998).

<sup>96</sup> Legal Aid of Cambodia, *Annual Report 2001*, ch. 6 (2002), available at [http://www.lac.org.kh/annual\\_report\\_2001.htm](http://www.lac.org.kh/annual_report_2001.htm); see also Alyssa A. Vegter, *Forsaking the Forests for the Trees: Forestry Law in Papua New Guinea Inhibits Indigenous Customary Ownership*, 14 PAC. RIM L. & POL’Y J. 545 (2005) (describing the similarly slow process of settling indigenous land disputes in Papua New Guinea).

<sup>97</sup> Guy De Launey, *Cambodia ‘Suffering Land Crisis,’* BBC NEWS, Sept. 2, 2005, available at <http://news.bbc.co.uk/1/hi/world/asia-pacific/4207138.stm>

<sup>98</sup> A reversionary interest is an interest in land that will revert to the grantor when the current owner dies or gives up her interest in the property at issue. See Joseph William Singer, *PROPERTY LAW: RULES, POLICIES, AND PRACTICES*, 572 (3d ed. 2002).

<sup>99</sup> “The State is the owner of the properties in the territory of the Kingdom of Cambodia . . . and of all properties that are escheat, or that are voluntarily given to the State by their owners, or that have not been subject to due and proper private appropriation or that are not presently being privately occupied in accordance with the provisions of Chapter 4 of this law.” Land Law of 2001, *supra* note 94, art. 12 (emphasis added).

fail to register properly the land. Arguably, Article 44 of the Constitution should govern Article 12, making such an escheat<sup>100</sup> subject to public policy considerations. However, no explicit reference is made in the Land Law and the link remains vague at best.<sup>101</sup>

Moreover, the Land Law does not explicitly reference sustainable use or development of lands, especially those bordering inland fisheries. Concessions<sup>102</sup> generally are available for "social and economic purposes," but there is no formal system of granting lands for fishing.<sup>103</sup> Rather, the only major land laws that refer to fishing access are a 1989 Ministry of Agriculture, Forestry and Fisheries ("MAFF") proclamation creating fishing lots, and a 1993 proclamation of protected areas (including the Tonle Sap).<sup>104</sup> Thus, the 2001 Land Law sets few limits on the scope of development in and around the Tonle Sap Basin.

C. *The Forestry Law Projects an Honest Attempt at Conservation and Sustainable Management, but Creates Loopholes Regarding Fishery Protection*

Given the Tonle Sap's unique hydrology and interplay with surrounding forest and agricultural lands, the Forestry Law has a major impact on the Tonle Sap.<sup>105</sup> In 2002, a new set of Forestry Laws was adopted, creating a new legal regime focused on sustainable use of Cambodia's limited forest reserves.<sup>106</sup> The law's sustainable mission appears directly in the preamble.<sup>107</sup> This language responds to the destructive and erratic logging practices that persisted under prior laws and

<sup>100</sup> A reversion of property to the state where the owner dies without heirs or the property is abandoned. Here, abandonment can be found if the property is not properly titled. See SINGER ET AL., *supra* note 98, at 561.

<sup>101</sup> See *id.*

<sup>102</sup> A concession is defined as: "A government grant for specific privileges." BLACK'S LAW DICTIONARY 307 (8th ed. 2004).

<sup>103</sup> Land Law of 2001, *supra* note 94.

<sup>104</sup> Ministry of Agriculture, Fisheries and Forestry, *1989 Proclamation of the Minister of Agriculture, Forestry and Fisheries* (1989); see also Ministry of Agriculture, Fisheries and Forestry, *Regulations on the Creation and Designation of Protected Areas* (1993).

<sup>105</sup> See Andy Weiner, Comment, *The Forest and the Trees: Sustainable Development and Human Rights in the Context of Cambodia*, 151 U. PA. L. REV. 1543 (2003) (offering a general summary of the forestry laws and status of sustainable forestry practice in Cambodia).

<sup>106</sup> See Forestry Law, adopted Aug. 2002, at pmb., available at <http://www.maff.gov.kh/pdf/ForestryLaw.pdf> (unedited translation).

<sup>107</sup> This law defines the framework for management, harvesting, use, development, and reservation of the forests in the Kingdom of Cambodia. Pursuant to the National Forest policy, the principle objective of this Law is to ensure, for present and future generations, the sustainable management of these forests for their social, economic and environmental benefits. *Id.* ch. 1, art. 1.

the system of uneven concession granting.<sup>108</sup> Indeed, since the 1990s, due in part to illegal logging,<sup>109</sup> Cambodia has lost ten percent of its forest cover, representing a reduction from 13 million hectares to 11.2 million hectares.<sup>110</sup> The Forestry Law centralizes control over concession granting in the MAFF.<sup>111</sup> Additional legislation creates limits and clarifies the requirements for concessions.<sup>112</sup>

The Forestry Law's goal of sustainability relies upon establishing the permanent forest estate,<sup>113</sup> a protective boundary that can extend to all forests, public and private. Thus, there is a permanently protected forest, off-limits to logging, and another that is open to regulated logging. Within the public forests, termed the permanent forest reserve, concessions and logging activities are subject to strict management, with broad commands for sustainability.<sup>114</sup> While some of the language remains vague and broad, sub-decrees have been and will be established to make more specific commands.<sup>115</sup> The Forestry Law also makes use of centralized command and control authority in MAFF.<sup>116</sup>

While the Forestry Law addresses animal management and regulation,<sup>117</sup> it exempts all fish and aquatic life from its scope.<sup>118</sup> Moreover, the law does not explicitly address inundated forests, which are key to the health of the Tonle Sap. Further, the only regulation related to sedimentation

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<sup>108</sup> David Lyon, *Battling Cambodia's Illegal Timber Trade*, BBC NEWS, May 16, 2002, available at <http://news.bbc.co.uk/1/hi/world/asia-pacific/1989847.stm>. Concessions granted for forestry practices include the limited right to harvest timber, however, the MAFF has control over the scope of these concessions. See Weiner, *supra* note 105, at 1546.

<sup>109</sup> See Jennifer Lynn Peters, *Land and Resource Management: The Illegal Trafficking of Timber in Cambodia*, 1999 COLO. J. INT'L ENVTL. L. & POL'Y 102 (1999).

<sup>110</sup> See Phillip Hirsch, Institute for Global Environmental Strategies, *Underlying Causes of Deforestation in the Mekong Region* (1999), available at <http://www.iges.or.jp/en/fc/phase1/3ws-20-hirsch.pdf>; see also Heather Wolf, *Deforestation in Cambodia and Malaysia: The Case for an International Legal Solution*, 5 PAC. RIM L. & POL'Y J. 429, 431 (1996). Concessions under the new Forestry Law refer to "a contract between the State and a concessionaire for the harvest rights to timber products and NTFPs from a designated production forest within the permanent forest reserve." Forestry Law, *supra* note 105, art. 5(13). That contract cannot extend beyond thirty years and is terminable by the MAFF. *Id.* art. 18. Fishery concessions differ in that they are a limited grant given by lottery to fisherman and are more a paid-for license than a contract. See Draft Fisheries Law, *supra* note 9, art. 18.

<sup>111</sup> Forestry Law, *supra* note 106.

<sup>112</sup> Total laod: declaration (Prakas) No. 527, Dec. 25, 2001; Concession rules: declaration (Prakas) No. 5721, Dec. 13, 2001.

<sup>113</sup> Forestry Laws, *supra* note 106 at ch. 4. This includes important areas and critical habitat.

<sup>114</sup> *Id.* art. 11

<sup>115</sup> See MAFF e-Library, <http://www.maff.gov.kh/e-library/e-library.html>.

<sup>116</sup> See Organization Chart of MAFF, <http://www.maff.gov.kh/structure.html>. MAFF creates substantive policy to regulate specific forests with unique management issues.

<sup>117</sup> Forestry Laws, *supra* note 106, ch. 10.

<sup>118</sup> *Id.* art. 49.

refers to mining and excavating activities, not logging.<sup>119</sup> Erosion from deforestation and farmed land contributes damaging silt to the Tonle Sap, reducing its productive capacity.<sup>120</sup> This creates a gap in coverage of forestry resources with an indirect, yet substantial impact on the fisheries.<sup>121</sup> While it makes sense for gaps in the law to be rectified at the administrative level, it puts an unnecessary burden on the MAFF.<sup>122</sup> While flexibility and discretion can help adapt rigid laws to unique circumstances, too much discretion can lead to unplanned and poor management.

*D. The 1987 Fisheries Law Remains Outdated and Fails to Project a Vision of Sustainability for the Tonle Sap Basin*

The 1987 Fisheries Law has failed in large part due to its narrow scope and emphasis on state-run fish harvesting. Formed under the socialist PRK government, the law gave special rights to “government fishing enterprise or solidarity groups which [have] a right to do fishing in the fishing lots.”<sup>123</sup> That right “must be absolutely respected.”<sup>124</sup> This concentrates the power of state-run fishing, allowing it to be more expansive and free from competition. However, the law does not actually regulate anything more than subsistence and mid-scale fishing. Consequently, the absence of regulation for industrial fishing has proven to be problematic as Cambodia has left behind the socialist regime and entered the free market. Indeed, the absence of positive law has created loopholes favoring unchecked exploitation.<sup>125</sup>

The authors of the 1987 Fisheries Law also failed to study and plan for the current levels of use on the Tonle Sap. Although available fishery catch depends on the amount of water in the lake,<sup>126</sup> the actual catch has increased at dramatically higher levels. One study suggests that in 1987 the

<sup>119</sup> *Id.* art. 36(B)(1).

<sup>120</sup> Janet Larsen, Earth Policy Institute, *Disappearing Lakes, Shrinking Seas*, Apr. 7, 2005, at 3.

<sup>121</sup> Even assuming that the Fisheries Law is in place to govern some logging activity that harms the Tonle Sap, this type of gap in coverage allows users to skirt around the laws and exploit loopholes.

<sup>122</sup> See Forestry Law, art. 10(B). Gaps in the laws appear because the Parliament has created a separate set of laws for each sector of the MAFF. For example, where fisheries come up in the Forestry Law, the laws specifically say that “fish and animals that breed in water” are outside the scope of the laws. See *id.* art. 49(A). Parliament seems to expect MAFF to be able to coordinate and synthesize all of the laws to avoid any gaps. This puts a heavy burden on MAFF.

<sup>123</sup> Fiat-Law, *supra* note 34, art. 8.

<sup>124</sup> *Id.*

<sup>125</sup> See Chou Meng Tarr, Learning Across Boundaries on the Greater Mekong Sub-region, *Fishing Lots and People in Cambodia* (2003), [http://www.rockmekong.org/pubs/Year2003/social/13\\_chou.pdf](http://www.rockmekong.org/pubs/Year2003/social/13_chou.pdf).

<sup>126</sup> See E. Baran and T.A. Jantunen, *Bayfish—Tonle Sap: A Bayesian Model of the Fish Production in the Tonle Sap Great Lake, Cambodia*, in MODSIM 2005 INTERNATIONAL CONGRESS ON MODELLING AND SIMULATION 2312 (A. Zerger & R.M. Argent eds., 2005).



annual catch totaled approximately 60,000 tons, but has since increased to nearly 100,000 tons.<sup>127</sup> This is especially true of inland aquaculture, which the 1987 Fisheries Law limited and made largely contingent on special permission.<sup>128</sup> As the population and demand for resources increased, the 1987 Fisheries Law has proven unable to address and protect adequately the needs of the Tonle Sap for a sustainable future.

Much has changed since 1987, and subsequent legislation reflects a newfound concern for the Tonle Sap. For example, in 1995 the MAFF implemented new regulations to create better “management and eliminat[e] . . . anarchy in [the] fisheries sector.”<sup>129</sup> The regulations attempted to decrease the violent territorial clashes between the increasing number of mid-sized fishing outfits and smaller individual fishermen.<sup>130</sup>

Responding to the 1987 Fisheries Law’s shortcomings, the government has authorized two five-year Fisheries Sector Development Plans (“Five Year Plan”) drafted by MAFF. The 1996 Five Year Plan marked the first detailed socioeconomic and biologic studies of fishing on the Tonle Sap. The second Five Year Plan has continued adding regulations and more survey data. Recommendations are made for the proper management practices to respond to the changes in fish populations and habitat and fishing practices. Both Five Year Plans show particular reliance on outside loans, grants, and assistance from such international organizations as the World Bank and the Asian Development Bank. In addition, a regional agreement between Cambodia and its neighbors protects the Mekong.<sup>131</sup>

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<sup>127</sup> D. Lamberts, *Tonle Sap Fisheries: A Case Study on Floodplain Gillnet Fishing in Siem Reap, Cambodia*, RAP Publication AB561/E (2001), available at [http://www.fao.org/documents/show\\_cdr.asp?url\\_file=/docrep/004/ab561e/ab561e05.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/004/ab561e/ab561e05.htm).

<sup>128</sup> See *id.*; see also, Fiat Law, *supra* note 34, art. 19. Since the mid-1990s, however, there has been considerable growth in aquaculture production of fish and shrimp to nearly 15,000 tons a year in 2000. See Lamberts, *supra* note 126.

<sup>129</sup> DEPARTMENT OF FISHERIES, *supra* note 40, at 2.

<sup>130</sup> *Id.* In 1997, Cambodia designated the Tonle Sap as an international biosphere reserve, pursuant to UNESCO and in response to its increasingly recognized international importance. See United Nations Education, Scientific and Cultural Organization, *supra* note 14. Moreover, the Asian Development Bank has loaned millions to help stabilize and expand the fishing practices on the Tonle Sap, following up on this UNESCO designation. See ASIAN DEVELOPMENT BANK, *supra* note 7.

<sup>131</sup> Darren Posey, *Defining Interest: The Mekong River Commission*, J. INT’L POL’Y SOLUTIONS, Feb. 17, 2005, available at <http://www-irps.ucsd.edu/IPS/Defining%20Interests%20The%20Mekong%20River%20Commission.pdf>. “The MRC’s mandate is to support and coordinate the sustainable development of the Lower Mekong River Basin (LMRB), which runs through [Vietnam, Cambodia, Lao PDR, and Thailand]. However, the MRC was designed without the ability to coerce its members or punish violators of its policies. For this reason, realists have often maligned the MRC as an example of yet another ineffectual international regime.” *Id.*

The Mekong River Commission ("MRC") embodies a multi-national effort to develop sustainable practices throughout the Mekong River Basin.<sup>132</sup>

In addition to the Five Year Plans, the Draft Fisheries Law of 2001 ("Draft Fisheries Law") proposes a much tighter nexus of protective laws aimed at building sustainable regulations of fishery practices for inland and marine fish exploitation.<sup>133</sup> The law reflects the expansion of private fishing outfits, especially industrial ones. At the same time, the law gives special rights to family-scale production in order to protect subsistence fishing practices on the Tonle Sap and inland waterways.<sup>134</sup> Further, the law creates broader protections from encroachment for flood-inundated forests.<sup>135</sup> The 1987 Fisheries Law states only that "chopping, reclaiming or firing [sic] the inundated forest" is prohibited, whereas the Draft Fisheries Law establishes a protected area around all inundated forests, calling for conservation and replanting.<sup>136</sup> While this Comment explores the drafting flaws and policy errors in the Draft Fisheries Laws, it should be noted that the Draft Laws provide a comparatively strong alternative to the 1987 Fisheries Law.

#### IV. COVERAGE GAPS, LOOPHOLES AND DRAFTING DEFECTS: THE LEGAL INADEQUACIES OF THE LAWS CURRENTLY GOVERNING THE TONLE SAP

Cambodia's current legal regime for its fisheries fails to meet the broad policy goal of sustainability and fails to create strong, justified legal standards. The laws themselves lack clear definitions, transparency and proper enforcement mechanisms. This section examines the shortcomings of the laws at play on the Tonle Sap. First, the current and draft Fisheries Laws fail to meet the Cambodian Constitution's limits and requirements. Second, the Draft Fisheries Law places unwise discretion in the minister of MAFF, while failing to prevent adverse land use. Lastly, in light of the limited scope of the water pollution laws, the current and draft Fisheries Laws fail to make agricultural activity subject to either law, thus, allowing chemical fertilizers and pesticides to enter the Tonle Sap.

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<sup>132</sup> See Mekong River Commission, *supra* note 33; see also Adam S. Rix, *The Mekong River Basin: A Resource at the Cross-Roads of Sustainable Development*, 21 TEMP. ENVTL. L. & TECH. J. 103 (2003); see also Brian Shanahan, *Agreement for the Sustainable Development of the Mekong River Basin*, 8 GEO. INT'L ENVTL. L. REV. 496 (1996).

<sup>133</sup> See Draft Fisheries Law, *supra* note 9. This has yet to be adopted, although a version has circulated through Parliament.

<sup>134</sup> *Id.* art. 15.

<sup>135</sup> *Id.* arts. 33, 34.

<sup>136</sup> Fiat Law, *supra* note 34, art. 18(d); Draft Fisheries Law, *supra* note 9, arts. 33, 34.

A. *The Current Fishery Laws Fail to Meet the Strictures of the 1993 Constitution*

Cambodia's most recent Constitution establishes broad environmental conservation goals that the 1987 Fisheries Law fails to meet. Specifically, the 1993 Constitution proclaims that:

The State shall protect the environment and balance of abundant natural resources and establish a precise plan of management of [natural] resources.<sup>137</sup>

A close reading of the 1987 Fisheries Law reveals that it fails to establish any "precise plan" for management and "protect the environment."<sup>138</sup>

The 1987 Fisheries Law lacks a comprehensive or "precise" plan of management. Whereas the Draft Fisheries Law sets out a preamble projecting the conservation and management goals of the laws, the 1987 Fisheries Law fails to announce any sort of environmental conservation plan.<sup>139</sup> While one can ascertain a program of action, it is negatively stated, with no orderly arrangement of an overall objective that can be easily distinguished and applied. The law haphazardly explains where and what types of fishing are allowed, and how the penalties for violations of the law can be assessed and enforced. It fails to establish a means of creating a total allowable catch,<sup>140</sup> and fails to explain why certain fishing practices are forbidden and when fishing cannot be conducted. The law does not create any stakeholder participation in planning or enforcement.<sup>141</sup> A precise plan for conservation requires an assignment of rights to individual users that places economic and non-economic interests in the ongoing viability and health of the CPR.<sup>142</sup> Substantively, the law does establish some boundaries for protection. It calls for the creation of sanctuaries to be free from fishing, forbids "chopping, reclaiming or firing [sic] the inundated forests," and bans "all means of pumping, bailing, drying any part of fishery domain."<sup>143</sup>

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<sup>137</sup> Kingdom of Cambodia Constitution (1993) art. 59, available at <http://www.constitution.org/cons/cambodia.htm>.

<sup>138</sup> See *id.*

<sup>139</sup> See Draft Fisheries Law, *supra* note 9, art. 1. A plan, according to Merriam Webster's Dictionary, is "a detailed formulation of a program of action" or "an orderly arrangement of parts of an overall design or objective." Merriam Webster Online-Dictionary, <http://www.m-w.com/dictionary/plan>.

<sup>140</sup> Total allowable catch is seen as a necessary component to restricting over-fishing. It is a common theme of sustainable fisheries laws, such as those in New Zealand. See Kevin Stoakes, *Property Rights and Ecosystem Management: An Industry Perspective*, Bevan Series on Sustainable Fisheries (2006) (abstract available at <http://courses.washington.edu/susfish/speakers/stokes.html>).

<sup>141</sup> OSTROM, *supra* note 64.

<sup>142</sup> See *id.* at 3.

<sup>143</sup> Fiat Law, *supra* note 34, art. 18.

However, the Constitution requires more than mere designations and denials; it requires a precise plan.

One obvious reason for the unconstitutionality of the 1987 Fisheries Law is mere chronology. The law was drafted under a socialist government at a time of reduced fishing activity. As such, the drafters focused on government-run fishing operations.<sup>144</sup> At the same time, the drafters give special rights of easy access for subsistence fishing,<sup>145</sup> while giving few rights to medium sized fishing and aquaculture.<sup>146</sup> Moreover, the 1987 Fisheries Law does not envision the expansion of fish exports or integrating the Tonle Sap with international markets—a practice currently underway.<sup>147</sup> While the Draft Fisheries Law divides fishing practices into the same three categories, it focuses on parity between all users.

*B. The Land Concession Provisions and Discretionary Exceptions for Dams in the Draft Fisheries Law Create Loopholes*

While the Draft Fisheries Law presents a constitutionally valid<sup>148</sup> and more comprehensive set of conservation-oriented laws, it vests too much discretion in the minister of MAFF with regard to the Tonle Sap. By giving the minister of MAFF discretion to grant permits for dam creation and certain agricultural development,<sup>149</sup> the law fails to protect the Tonle Sap. Limits do not exist to cabin the minister's discretion, and he is relatively free to decide when to allow these damaging practices. This uncertainty burdens all users and reduces overall participation in the regulatory scheme. Moreover, damming has been noted as one of the more ruinous practices, since reduced flow and access will drastically reduce fish populations and the overall catch on the Tonle Sap.<sup>150</sup> However, because power supply in Cambodia continues to be unreliable and a source of frustration for

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<sup>144</sup> See *id.* art. 8.

<sup>145</sup> See *id.* art. 11. This section allows for year-round fishing even in protected areas and during the closed season.

<sup>146</sup> Now, however, these two practices have grown tremendously and need better organization and legal supervision. See ASIAN DEVELOPMENT BANK, *supra* note 7, at 2.

<sup>147</sup> Although the laws are silent on fish exportation, the Department of Fisheries does take into consideration fish exported to Thailand and surrounding countries. See Department of Fisheries, *Major Responsibilities*, <http://www.maff.gov.kh/depts/dof.html> (last visited May 12, 2006).

<sup>148</sup> The Draft Fisheries Law satisfies the Constitution's call for having "precise plan" by inserting such a plan in the preamble and in the substance of the law. See Merriam Webster Online-Dictionary, *supra* note 139.

<sup>149</sup> Draft Fisheries Law, *supra* note 9, art. 28.

<sup>150</sup> See E. Baran et al., *supra* note 126.

businesses,<sup>151</sup> hydroelectric power derived from damming tributary rivers is planned and underway in some areas.<sup>152</sup>

Unwisely, Article 28 of the Draft Fisheries Law creates a procedural loophole regarding the prohibition on damming and destructive activities on the fishery resources. On its face, Article 28 clearly prohibits “expanding farming lands in the fishery domains,” “building dikes/dams,” and “any other activities in the fishery domains that may cause destruction of the fishery resources.”<sup>153</sup> However, the law imbues the minister with discretion to permit these activities by giving him the power to lift the ban when he sees fit.<sup>154</sup> The law fails to explain the types of circumstances that would warrant such permission.<sup>155</sup> Thus, this vague exception to the prohibition sets up a procedural loophole with tremendous potential for abuse.<sup>156</sup> This sort of policy undermines predictability and allows certain special interest groups to occupy positions of power without accountability.<sup>157</sup> Proper conservation policy requires the elimination of ex parte influence, making discretionary function transparent and as logical as possible.<sup>158</sup>

The discretionary authority vested in the minister of MAFF by Article 28 may also undermine the explicit prohibition of other activities delineated in the same subchapter.<sup>159</sup> For example, Article 34 creates a clear ban on using or destroying inundated forests, with no exceptions.<sup>160</sup> However, one might read Article 28, part of the same subchapter as Article 34, as a means of circumventing Article 34 because the minister would still have general authority to grant exemptions. This interpretation seems rather unlikely in

<sup>151</sup> Guy De Launey, *Lights Out in Phnom Penh*, BBC NEWS, Feb. 22, 2006, <http://news.bbc.co.uk/2/hi/business/4740122.stm>

<sup>152</sup> See Mekong Basin Community Rights Project, *Background Statement*, <http://www.ngoforum.org.kh/Environment/Mekong/background.htm>; see also James D. Zirin, *Cambodia's Glimmer of Hope*, WASH. POST, Feb. 26, 2006, at B3.

<sup>153</sup> See Draft Fisheries Law, *supra* note 9, ch. 6, art. 28.

<sup>154</sup> *Id.*

<sup>155</sup> See *id.* arts. 8-9 (the plain language sets no standards to guide the discretion of the minister in finding exemptions to this rule).

<sup>156</sup> See Michael M. Calavan et al., *Cambodian Corruption Assessment*, USAID ICQ Contract No. DFD-I-00-03-00139-00, Task Order No. 801, Submitted Aug. 19, 2004, at 2 (“[C]orruption...has reached ‘pandemic’ proportions”).

<sup>157</sup> See The World Bank, *Anti-Corruption*, <http://www.worldbank.org> (follow “anticorruption” hyperlink).

<sup>158</sup> See Press Release, The World Bank, Cambodia and Donors Resolve to Tackle Impediments to Development (Mar. 3, 2006) (release no. 2006/295/EAP), available at <http://www.worldbank.org/> (follow “news” hyperlink and enter search for “Cambodia donors”).

<sup>159</sup> Draft Fisheries Law, *supra* note 9, arts. 33-35. Chapter six pertains to the “Management of Protected Inundated Areas.”

<sup>160</sup> Article 34 prohibits “[e]xpanding agricultural lands or using lands in the protected inundated areas for all purposes excluding development of fisheries [and] [i]ssuance of Land titles in the protected inundated areas.” *Id.* art. 34

light of the clear danger that removal of inundated forests creates. However, dams can have a significantly deleterious effect on the fishery, and yet there are means of getting permission to build them. Thus, the lack of clarity could be used to conclude that the minister of MAFF can allow some reasonable development for the public good.<sup>161</sup> As illustrated by the previous land laws, the lack of clarity is likely to be exploited.<sup>162</sup> A simple solution would be to explicitly exempt Article 34 from Article 28's conferral of the discretionary power to the minister of MAFF.

This Article 28 loophole also raises two other points of conflict between the International Agreement on the Protection of Wetlands ("IAPW")<sup>163</sup> and the Environmental Protection and National Resource Management Laws ("NRML").<sup>164</sup> In 1996 Cambodia officially adopted the Convention on Wetlands of International Importance Especially as Waterfowl Habitat.<sup>165</sup> While this international agreement is arguably soft-law,<sup>166</sup> the law passed by Cambodia does require that it "shall formulate and implement . . . planning so as to promote the conservation of the wetlands . . ."<sup>167</sup> The Draft Fisheries Law, however, undermines the conservation of wetlands by allowing discretionary damming and wetlands development. Similarly, the Draft Fisheries Law Article 28 waiver provision conflicts with the NRML because NRML does not allow discretionary exceptions.<sup>168</sup> NRML requires that the "natural resources of the Kingdom of Cambodia . . . shall be preserved, developed and managed to use in a rational and

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<sup>161</sup> See *id.* art. 28. The lack of clarity in the language allows for vague definitions that can be manipulated for improper purposes.

<sup>162</sup> This is an especially valid consideration in a country where corruption is "pandemic." See Calavan et al., *supra* note 156, at 2. For example, there was a case in which the government, pursuant to escheat provisions of the 1992 Land Law tried to deceive and coerce nearly 1,000 indigenous land owners to give up their rights to 1,250 hectares of land. See Legal Aid of Cambodia et al., Cambodia: Landmark Indigenous Land Rights Case to Be Heard in Ratanakiri Provincial Court: Background Briefing Memo, Human Rights Watch World Report 2001: Cambodia, <http://www.hrw.org/backgrounder/asia/landrights-bck.htm> (last visited May 12, 2006).

<sup>163</sup> See Adoption of the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Kram, Oct. 22, 1996 [hereinafter Wetlands Kram]; see also Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Feb. 2, 1971, U.N.E.S.C.O., available at [http://www.ramsar.org/key\\_conv\\_e.htm](http://www.ramsar.org/key_conv_e.htm) [hereinafter Wetlands Convention].

<sup>164</sup> See Environmental Protection and National Resource Management Laws, Kram, Dec. 24, 1996, available at <http://sunsite.nus.edu.sg/apcel/dbase/cambodia/primary/caaenv.html> [hereinafter NRML].

<sup>165</sup> Wetlands Kram, *supra* note 163.

<sup>166</sup> BLACK'S LAW DICTIONARY (8th ed. 2004). Soft law is: "[c]ollectively, rules that are neither strictly binding nor completely lacking in legal significance; [and/or] Guidelines, policy declarations, or codes of conduct that set standards of conduct but are not legally binding."

<sup>167</sup> Wetlands Kram, *supra* note 163, art. 3.

<sup>168</sup> Article 28 states that eight prohibited activities, including damming inundated forests, can "be conducted only when special permission is given." Draft Fisheries Law, *supra* note 9, art. 28(B).

sustainable manner.”<sup>169</sup> By vesting major discretion in one minister, as Article 28 does, the ability to rationally preserve, develop and manage resources in a sustainable manner is less than assured. In a country where corruption is “pandemic,”<sup>170</sup> that discretion will likely be subject to private interests, which are likely uninterested in sustainability and preservation of natural resources.

It should also be noted that countries neighboring Cambodia have considered damming tributary rivers to the Tonle Sap.<sup>171</sup> This is a real problem facing Southeast Asian countries that are attempting to find greater sources of electricity.<sup>172</sup> For example, China has proposed damming the Mekong, even though there remains much doubt about the efficiency and strength of such a hydroelectric source.<sup>173</sup> Thus, Cambodia must be assertive in setting its own policy to ensure that others do not undermine the health of the Tonle Sap.

C. *The Draft Fisheries and Water Pollution Control Laws Fail to Establish a Means of Preventing the Introduction of Pesticides and Chemical Fertilizers in the Tonle Sap Basin*

The Draft Fisheries Law does not address water pollution. Consequently, its narrow scope, combined with gaps in the Water Pollution Control Law (“WPCL”), allows the use of herbicides and pesticides to degrade the Tonle Sap.<sup>174</sup> Just as the U.S. Clean Water Act (“CWA”) exempts agricultural activities from the National Pollutant Discharge Elimination System (“NPDES”) permit system,<sup>175</sup> the Cambodian laws do not subject agricultural or arboreal practices to any permitting or planning regime.<sup>176</sup> This oversight, whether purposeful or unintentional, undermines the Draft Fisheries Law’s attempt to protect the health and sustainability of the Tonle Sap.

The WPCL presents broad protections against pollution into public waters, but fails to bring pollutants incident to agricultural activity under its

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<sup>169</sup> NRML, *supra* note 164, art. 8.

<sup>170</sup> Calavan et al., *supra* note 156, at 2.

<sup>171</sup> See International Rivers Network, IRN’s Southeast Asia Campaign, <http://www.irn.org/programs/seasia/> (last visited May 7, 2006) (detailing recent damming activity in Southeast Asia).

<sup>172</sup> See *id.*

<sup>173</sup> See Posey, *supra* note 131, at 5-8.

<sup>174</sup> See Council of Ministers, *Sub-Decree on Water Pollution Control*, No: 27 ANRK.BK, Phnom Penh, Apr. 6, 1999 [hereinafter WPCL].

<sup>175</sup> See 33 U.S.C. § 1362(14) (2000).

<sup>176</sup> See WPCL, *supra* note 174, Annex 3.

permitting system.<sup>177</sup> In many ways, the WPCL is stronger than the CWA, in that “sources of pollution”<sup>178</sup> are defined broadly and not limited to “point sources.”<sup>179</sup> It covers any direct or indirect discharge of pollutants into public water areas, requiring permits for any such discharges from the Ministry of Environment (“MOE”).<sup>180</sup> However, the WPCL further states that only those sources listed in an annex shall be required to have a permit from the MOE, thus narrowing the scope of the law.<sup>181</sup> Indeed, agricultural activity is not listed, although “animal farm[s]” and “aquatic production processing” are listed.<sup>182</sup> Consequently, the WPCL creates the same loophole as the CWA for non-point sources,<sup>183</sup> such as for farms near the Tonle Sap and its tributaries, which are able to use chemical fertilizers and pesticides with no regulation from the MOE.<sup>184</sup>

Further, the WPCL fails to cover pesticide and fertilizer use, and the Draft Fisheries Law nearsightedly skips over adverse agricultural activity. While the Draft Fisheries Law does prohibit “expanding agricultural lands or using lands in the protected inundated areas,”<sup>185</sup> it does not address agricultural uses outside the protected inundated areas. Both Cambodian

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<sup>177</sup> *Id.* arts. 10-17.

<sup>178</sup> The law defines a “source of pollution” as “any type of places [*sic*] such as a dwelling house, public administrative building, premise, transport facilities, business areas [*sic*] or service place from which effluent, pollutants or hazardous substances are directly or indirectly discharged into public water areas or public drainage systems.” *Id.* art. 3(b).

<sup>179</sup> 33 U.S.C. § 1362(14) (defining a “point source” as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged” and excluding “agricultural stormwater discharges and return flows from irrigated agriculture”).

<sup>180</sup> WPCL, *supra* note 174, art. 10.

<sup>181</sup> *Id.* art. 11.

<sup>182</sup> *Id.* Annex 3.

<sup>183</sup> See generally David Zaring, Note, *Agriculture, Nonpoint Source Pollution, and Regulatory Control: The Clean Water Act's Bleak Present and Future*, 20 HARV. ENVTL. L. REV. 515 (2005). The failures of the CWA to limit the introduction of agricultural and industrial waste into American waters should guide the Cambodian laws given the similarities. The CWA's biggest failure is in the distinction made between point and non-point source pollution. See *id.*; see 33 U.S.C. § 1341 (2000); see 33 U.S.C. § 1362(12), (14) (2000) (detailing the regulations for point and non-point sources). Non-point source discharge falls outside the regulatory scope of the act. Thus agricultural runoff, including animal waste, feedlot runoff, and general sediment are unregulated by the CWA, merely because they enter the water table in what cannot be classified as a “point source.” While the CWA has reduced introduction of chemicals, poisons and sediment through point sources, the non-point source remains a danger to its effectiveness. See generally Zaring, *supra*.

<sup>184</sup> WPCL, *supra* note 174, at Annex 3 (excluding chemical fertilizers and pesticides from a list of types of pollution for which permits are required).

<sup>185</sup> See Draft Fisheries Law, *supra* note 9, art. 5(A)(3). The laws define protected inundated areas as the inundated forests areas “which are covered with floodwater during flooding season and important feeding, spawning and breeding habitats for aquatic animals.” *Id.*



and international non-governmental organizations (“NGOs”) ought to be aware of the American example and learn from the CWA’s mistakes.

V. RECOMMENDATION: CAMBODIA NEEDS TO MEET THE BROAD ENVIRONMENTAL CONSERVATION GOALS OF ITS CONSTITUTION THROUGH LAND, FORESTRY, AND FISHERY LAWS

Given the defects in the critical laws affecting the Tonle Sap Basin, there are several recommendations that, if followed, can place Cambodia in a position to make the Tonle Sap a sustainable fishery. First, the laws must be tightened to create stronger protections for users and the Tonle Sap itself. Second, the laws must reference each other and create a much tighter web of protective mechanisms. Third, the laws must provide for proper administrative oversight on both national and local levels to assure an even-handed regulation of fishery, agricultural, and forestry activities. Lastly, Cambodia must make good on international agreements to protect the Tonle Sap from undue influences from other the activities of other Southeast Asian countries. At the same time, these recommendations must account for the lack of money and education of the country, as well as its weak enforcement and the general corruption of the government.

A. *Cambodia Needs to Restructure the Power Allocations Within the Management and Administrative Regime on the Tonle Sap*

Given the size and importance of the Tonle Sap, a more formal and stricter set of laws and regulations is necessary. Although smaller fisheries such as Celilo Falls<sup>186</sup> were successful with few regulations, a large-scale fishery such as the Tonle Sap needs formal laws, strict management controls, and evolving catch limits based on increased scientific data. Regulations and enforcement must be managed on both a national and local level so as to avoid devolution of federal authority while ensuring that local users do not abuse or overuse the resources because of the availability of markets.<sup>187</sup> The key, then, is to ensure participation of local users and officials of every level in order to design a system to best fit the common pool resource. Emphasis should be placed in incorporating people of all ethnicities, educational levels, and each gender into the system of legislation and adjudication on the Tonle Sap.<sup>188</sup>

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<sup>186</sup> See DUPRIS ET AL., *supra* note 67, at 15.

<sup>187</sup> THE COMMONS IN THE NEW MILLENNIUM: CHALLENGES AND ADAPTATION 20-21 (Nives Dolsak & Elinor Ostrom eds., 2003).

<sup>188</sup> See ASIAN DEVELOPMENT BANK, *supra* note 7, at 32.

Moreover, several important lessons of the Celilo Fish Committee can be taken away and applied to the Tonle Sap. First, there must be a means of allocation of property rights on the fishery in a broad and meaningful way. Currently, the fish lot system works only to distribute narrowly to a small number of users, and many users appear to be left out. At the same time, rather than simply privatize the entire fishery, there can be what Ostrom calls an "alternative" solution whereby the users "make a binding contract to commit themselves to a cooperative strategy that they themselves will work out."<sup>189</sup> That is, users have a property interest that exists only with the assumption of a quasi-contractual obligation to use the resource in a manner that benefits all the users. In a sense, this binds all the users to stave off the tragedy of the commons by reducing the ability to externalize the cost of over production.<sup>190</sup> This self-limitation for the good of the community can be easily seen at Celilo Falls, where Indian fishermen fished only at certain times, took just enough to eat and sell for subsistence, and ensured that other users abided by the rules.<sup>191</sup> Second, there must be a means of monitoring and imposing sanctions for transgression of the laws on the Tonle Sap. There ought to be both clear rules and locally managed supervisors. Ideally the supervisors will be the users themselves.<sup>192</sup> Indeed, small-scale, self-managing fishery communities hold promise for Cambodians who rely on the resource for subsistence. With a well-placed and functioning regulatory structure, such alternatives are possible within the broader, national fishery framework.

Decentralization is often viewed as an ideal method of creating good governance of CPRs, but this is a new concept in Cambodia, where a strong centralized government has dominated.<sup>193</sup> The success of decentralization in certain cases has hinged on the degree of cooperation and influence given to local participants.<sup>194</sup> An attractive balancing scheme of local and national interest might be found in a federalist approach of local supervision with national administrative and enforcement protections.<sup>195</sup> The United States

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<sup>189</sup> OSTROM, *supra* note 64, at 15.

<sup>190</sup> *Id.*

<sup>191</sup> See DUPRIS ET AL., *supra* note 67, at 263.

<sup>192</sup> OSTROM, *supra* note 64, at 19-20. In Alanya, Turkey, for example, a small group of about 100 fishermen shared fishing sites and monitored each other quite closely so that no one user ruined any fishing location. That was a very successful and sustainable fishery, quite similar to the Celilo Falls fishery. *Id.* at 18-20.

<sup>193</sup> Samath et al., *supra* note 4, at 347.

<sup>194</sup> *Id.* at 368.

<sup>195</sup> D.S. Butterworth & A.E. Punt, *The Role of Harvest Control Laws, Risk and Uncertainty and the Precautionary Approach in Ecosystem-System Management*, presented at Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (Oct. 1-4, 2001).

uses this scheme for regional fishery interests where “regional fishery management councils recommend management plans and regulations to the Secretary of Commerce, who holds the ultimate authority for their approval and responsibility for their consistency with federal law.”<sup>196</sup> The most successful approach would likely require local committees working with the MAFF and regional groups to regulate practices on the Tonle Sap.

*B. Cambodia Must Restructure, Clarify, and Expand the Fishery Laws*

Paramount to the creation of a sustainable fishery on the Tonle Sap is the reformation of the legal regimes affecting the use and development of the fishery. First, the Draft Fisheries Law must be amended to provide clear and distinct prohibitions for harmful activities on the basin. Second, the laws must expand the defined area of the Tonle Sap. Third, the fishery laws must coordinate with other environmental laws and the 1993 Constitution to create a clear and comprehensive framework. Fourth, the administrative and enforcement agencies must be strengthened by greater regional and local participation.

Assuming the adoption of the Draft Fisheries Law, there are several loopholes that must be closed to make the laws a basis for a model of sustainability. First, discretion vested in the Ministry of Fisheries ought to be limited by removing the open-ended discretionary exemptions in Article 28 of the Draft Fisheries Law. The minister’s power ought to be balanced by local councils of users who can better monitor and advise MAFF on important fishery issues. If flexibility is needed, then discretionary exceptions should derive from a council composed of national, regional, and local actors who can best assess the impacts of the proposed action. At the very least, there should be guidelines, such as a “for cause” showing, as to why an exception should be granted.

Second, the fisheries law must be broadened in scope so as to create a management system that encapsulates the entire reach of the Tonle Sap.<sup>197</sup> If the area under the scope of the fisheries law does not include the non-inundated forests and agricultural land, a great amount of silt and

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<sup>196</sup> Susan Hanna, *Transition in the American Fishing Commons: Management Problems and Institutional Design Challenges*, in THE COMMONS IN THE NEW MILLENNIUM: CHALLENGES AND ADAPTATION, *supra* note 187, at 62.

<sup>197</sup> Setting a protective buffer can be a critical part of establishing a resource management plan. See James M. Acheson & Jennifer F. Brewer, *Changes in the Territorial System of the Maine Lobster Industry*, in THE COMMONS IN THE NEW MILLENNIUM: CHALLENGES AND ADAPTATION, *supra* note 187, at 54. The current scope of the protective boundary is simply too small to cover the entire basin. See *Creation and Designation of Protected Areas*, Royal Decree, Nov. 1, 1993 (establishing the protective area and defining its borders) [original on file with author].

sediment will be further introduced. While removal of inundated forests is a major cause of destruction of fish, nearby forests on the Mekong and other rivers can have just as great a negative impact. By broadening the scope of the laws and the attendant prohibitions, a greater area will come into the control of the resource management agencies and more comprehensive decisions can be made.

Structurally, the fisheries law should project a more cohesive and integrated system of local, regional, and national management. The Asian Development Bank ("ADB") recommends a system of decentralization,<sup>198</sup> but total independence from MAFF or national groups would probably be unwise. The collective choice model of governance ought to include the national as well as the local concerns. At the same time, total national control is unwise given the lack of "on-the-ground" knowledge and the strong potential for corruption. A feasible solution to this is a network of councils to inform all levels of the decision making process. Adjusting the laws to require local and regional participation in the MOE and MAFF decision-making will strengthen the laws and rules for better management. Further, it will avoid the problems that were rampant under the Land Law of 1992 such as a lack of participation and ignorance of the laws. This will create more thorough and planned decision making.

The network of environmental-related laws must be tightened to work in concert and to support the Constitution. Between the forestry, land, water and fishery laws, gaps exist that can and will be exploited by users on all levels.<sup>199</sup> For example, the forestry laws should make explicit reference to safe harvesting practices in areas critical to inland fisheries. Likewise, the land laws should make concessions impossible in areas that will have an adverse impact on the fisheries. This change can be implemented by amending each law to reference the relevant fishery, forestry or land law. It can also be done by giving better financing to local and regional bodies, like MOE, to coordinate the uses subject to all the laws. A broader scope and more direct referencing between environmental laws will ensure a cohesive and protective web for inland fisheries.

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<sup>198</sup> See ASIAN DEVELOPMENT BANK, *supra* note 7, at 16-19.

<sup>199</sup> Given the fact that corruption is rampant, the silence in the forestry, land and water laws regarding impacts on the fisheries creates a legal means of avoiding consideration of the fisheries for activities such as logging, dumping waste or developing lands in wetland areas. Although the laws are designed to be exclusive to each sector of the MAFF, there needs to be language in each sector's laws that the laws work together—that one cannot get around a law by relying on the silence in another.

C. *Cambodia Must Strengthen Administrative Agencies to Ensure a Fair System of Fish Lot Lotteries and Enforcement of Sustainable Farming*

Proper administration and enforcement will become more necessary as the Tonle Sap and Cambodia become more widely recognized.<sup>200</sup> Currently, the MOE “is a politically weak ministry compared to, for instance, [MAFF], and has severe difficulties in forcing its will on other political interests.”<sup>201</sup> While the MAFF may become stronger, it does not have the proper structure to administer and enforce the laws.<sup>202</sup> Many observers have pointed out the lack of agency coordination at local and regional levels.<sup>203</sup> Thus, restructuring and creating local MAFF offices will help. By involving local actors in the process of establishing, improving and enforcing the laws, decision-makers will be better informed.

More reliance should also be placed on the Mekong River Commission (“MRC”).<sup>204</sup> The MRC can be relied on to help ensure that the sustainable practices on the Tonle Sap and regulate damming activity.<sup>205</sup> However, the MRC itself needs to be expanded and its regulations made binding.<sup>206</sup> If that can be accomplished, then Cambodia can help limit adverse impacts of Chinese damming of the Mekong by coordinating the four member countries in opposition. Moreover, having a broad coalition that represents both development and preservation interests of four nations helps ensure well-conceived, multilateral action.

By increasing the strength of the MAFF and MRC, Cambodia can create a protective network that can contain damaging practices in the greater Tonle Sap Basin. The MAFF needs greater funding and localization, while the MRC needs expanded powers. Together, these two policy changes can provide protection from both domestic and international destruction.

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<sup>200</sup> See World Lakes Network, *supra* note 22, at 8-9.

<sup>201</sup> Samath et al., *supra* note 4, at 356.

<sup>202</sup> The ADB suggests that the MAFF and other agencies have been crippled by rigid a command and control mentality and a lack of funding. ASIAN DEVELOPMENT BANK, *supra* note 13, at 12. On the Tonle Sap itself, a lack of enforcement has been recognized by MAFF as the leading contribution to the “anarchy” in the fisheries sector. See MAFF, *supra* note 37, at 3.

<sup>203</sup> See ASIAN DEVELOPMENT BANK, *supra* note 7, at 16-19.

<sup>204</sup> Structurally, the MRC provides a large representative Council, a Joint Council creating and implementing policy and a Secretariat who provides technical and administrative support. See MRC, *About the MRC*, [http://www.mrcmekong.org/about\\_mrc.htm#MRC](http://www.mrcmekong.org/about_mrc.htm#MRC) (last visited May 12, 2006).

<sup>205</sup> A look at the hydroelectric policy reveals that the MRC makes broad considerations of not only the economic but also the environmental and social interests. See MRC, *MRC Hydropower Development Strategy* (2001), available at <http://www.mrcmekong.org/programmes/hydropower.htm> (follow “MRC Hydropower Development Strategy” hyperlink).

<sup>206</sup> Currently the regulations and laws coming out of the MRC are seen as useless. See Posey, *supra* note 131, at 2.

## VI. CONCLUSION

As Cambodia fast-forwards into the modern realities of the twenty-first century, it faces the challenging dilemma of both preserving and capitalizing on its natural resources. In a country reliant on manual labor, agricultural work, and fishing, laws that regulate and protect natural resources are of extreme importance. Where fishing is concerned, the Cambodia's current legal system needs improvement. The current laws should be replaced with up-to-date and comprehensive laws that establish a sustainable model for coastal and inland fisheries. Further, the relevant Water, Land and Forestry laws must be amended to both protect fisheries from related harmful practices and create secondary protections for fishery sustainability. Lastly, Cambodia must reformulate its administrative structure to enfranchise fishery users at every level, creating a quasi-federal model of management. Changes in the abovementioned areas will help Cambodia protect, preserve, and use wisely its largest fishery, the Tonle Sap, Southeast Asia's Great Lake.